CHAPTER SEVEN

ELECTRICAL SYSTEM

CHARGING SYSTEM (TRX125 AND FOURTRAX 125)

The charging system consists of a battery, alternator and solid-state voltage regulator/rectifier. **Figure 81** shows the charging system.

Charging System Output Test

The output test is the same as on previous models with the exception of the amperage readings.

Perform the test as described in Chapter Seven in the main body of this book and compare the readings to the following:

a. Minimum: 2.4 amps at 2,000 rpm (14 volts).
b. Maximum: 7.5 amps at 10,000 rpm (14 volts).

ALTERNATOR (OUTER ROTOR TYPE)

Removal/Installation (TRX125 and Fourtrax 125)

The removal and installation procedure is the same as for the ATC125M as described in Chapter Seven in the main body of this book. The only exception is the shape of the left-hand crankcase cover as shown in **Figure 82**.

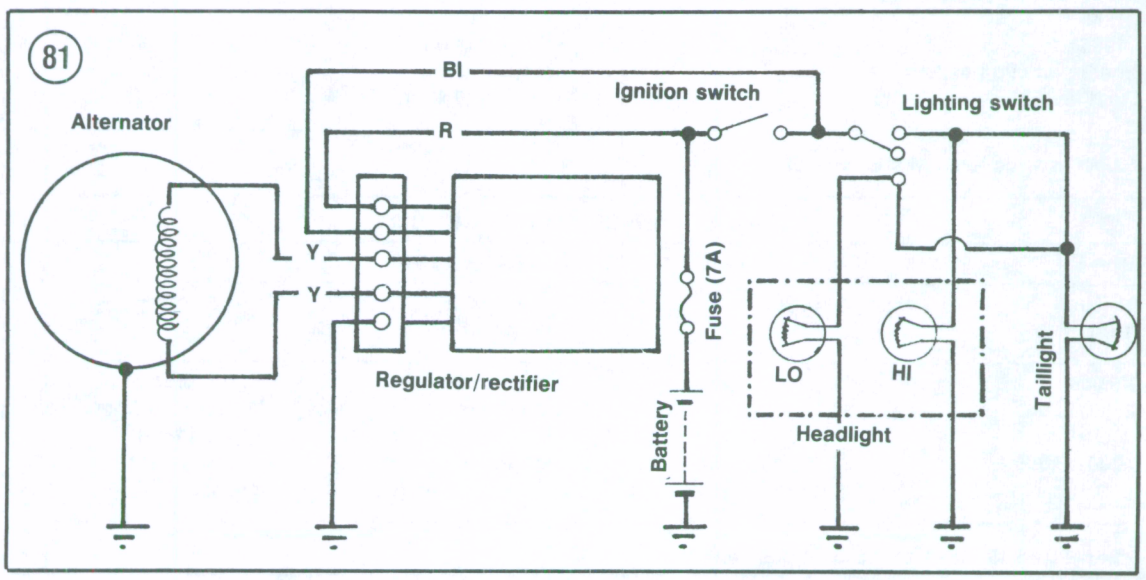
STATOR COIL TESTING

It is not necessary to remove the stator assembly to perform the following tests. All tests are performed at the alternator stator electrical connector (**Figure 83**).

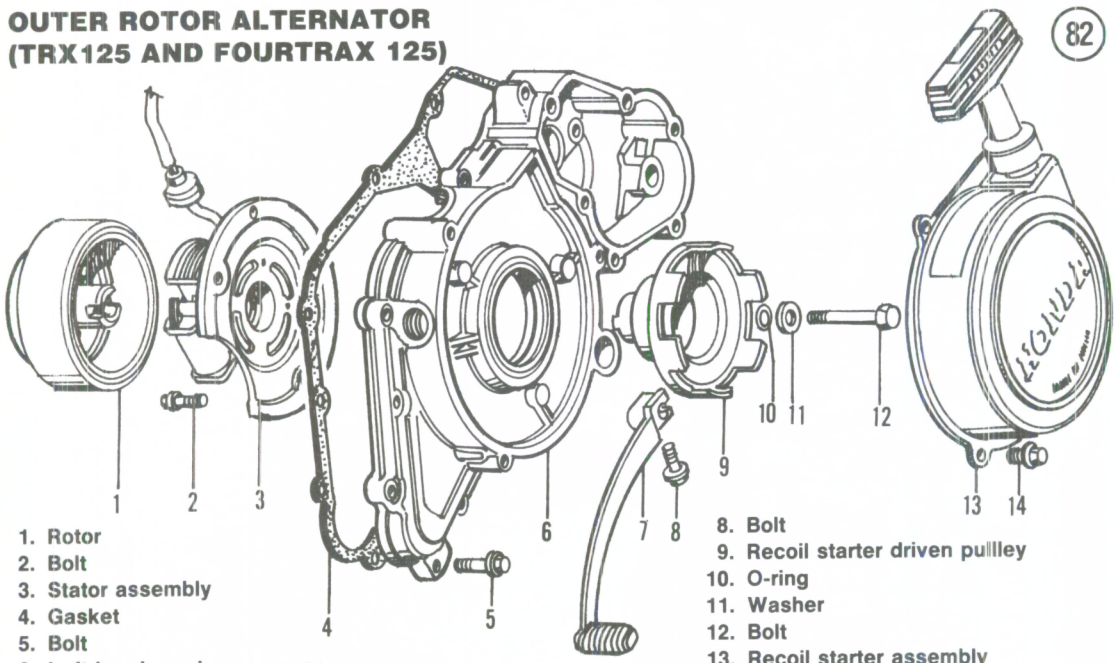
To get an accurate resistance measurement the stator assembly and coil must be warm (minimum temperature is 68° F/20° C). If necessary, start the engine and let it warm up to normal operating temperature.

Fourtrax 70 Exciter Coil Test

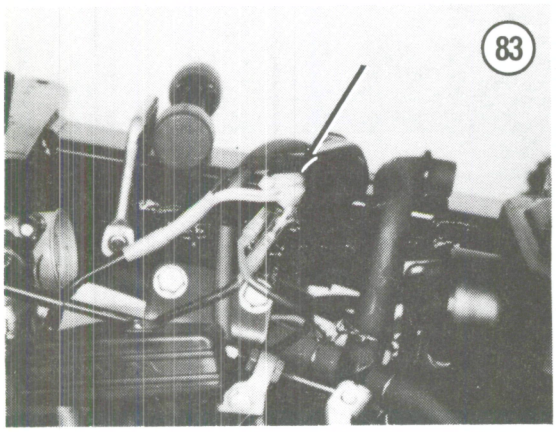
1. Place the ATV on level ground and set the parking brake.
2. Remove the seat/rear fender assembly as described in this supplement.
3. Disconnect the exciter coil electrical connector (black/red wire).

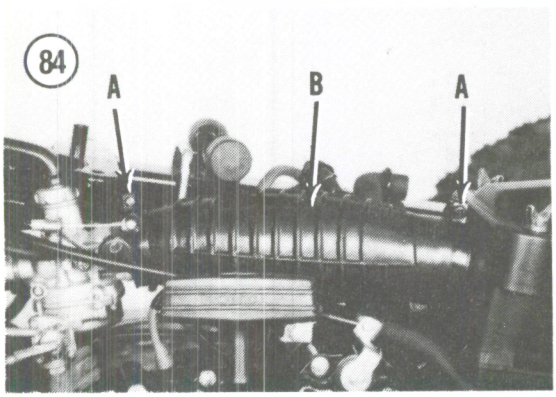


OUTER ROTOR ALTERNATOR (TRX125 AND FOURTRAX 125)



1. Rotor
2. Bolt
3. Stator assembly
4. Gasket
5. Bolt
6. Left-hand crankcase cover
7. Gearshift lever
8. Bolt
9. Recoil starter driven pullley
10. O-ring
11. Washer
12. Bolt
13. Recoil starter assembly
14. Bolt





4. Use an ohmmeter set at R×1 and check resistance between the black/red wire and ground. There should be continuity (specified resistance of 464-696 ohms). If there is no continuity (infinite resistance) or the resistance value is not within these limits, the stator assembly must be replaced (the individual coil cannot be replaced) as described in Chapter Seven in the main body of this book.
5. Reconnect the exciter coil electrical connector.
6. Install the seat/rear fender assembly.

TRX125 and Fourtrax 125
Charging Coil Test

1. Place the ATV on level ground and set the parking brake.
2. Remove the seat/rear fender assembly as described in this supplement.
3. Loosen the clamping screws (A, **Figure 84**) on the air cleaner tube and remove the air cleaner tube (B, **Figure 84**).
4. Disconnect the alternator 2-pin electrical connector (2 yellow wires) (**Figure 83**).
5. Use an ohmmeter set at R×1 and check resistance between both yellow terminals within the connector. There should be continuity (specified resistance of 0.1-1.0 ohms). If there is no continuity (infinite resistance) or the resistance value is not within these limits, the stator assembly

must be replaced (the individual coil cannot be replaced) as described in Chapter Seven in the main body of this book.
6. Reconnect the alternator 2-pin electrical connector.
7. Install the air cleaner tube and tighten the clamping screws on each end.
8. Install the seat/rear fender assembly.

Exciter Coil (ATC110)

1. Remove the seat/rear fender assembly.
2. To check the exciter coil, use an ohmmeter set at R×100.
3. Disconnect the black/red wire connector going to the alternator.
4. Check the resistance between the black/red wire and ground. The specified resistance is 110-400 ohms.
5. If the resistance value is not within these limits, the stator assembly must be replaced (the individual coil cannot be replaced) as described in Chapter Seven in the main body of this book.
6. Reconnect the black/red wire and install the seat/rear fender assembly.

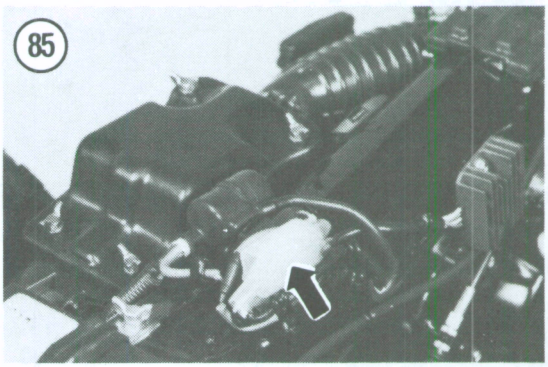
Lighting Coil (ATC110)

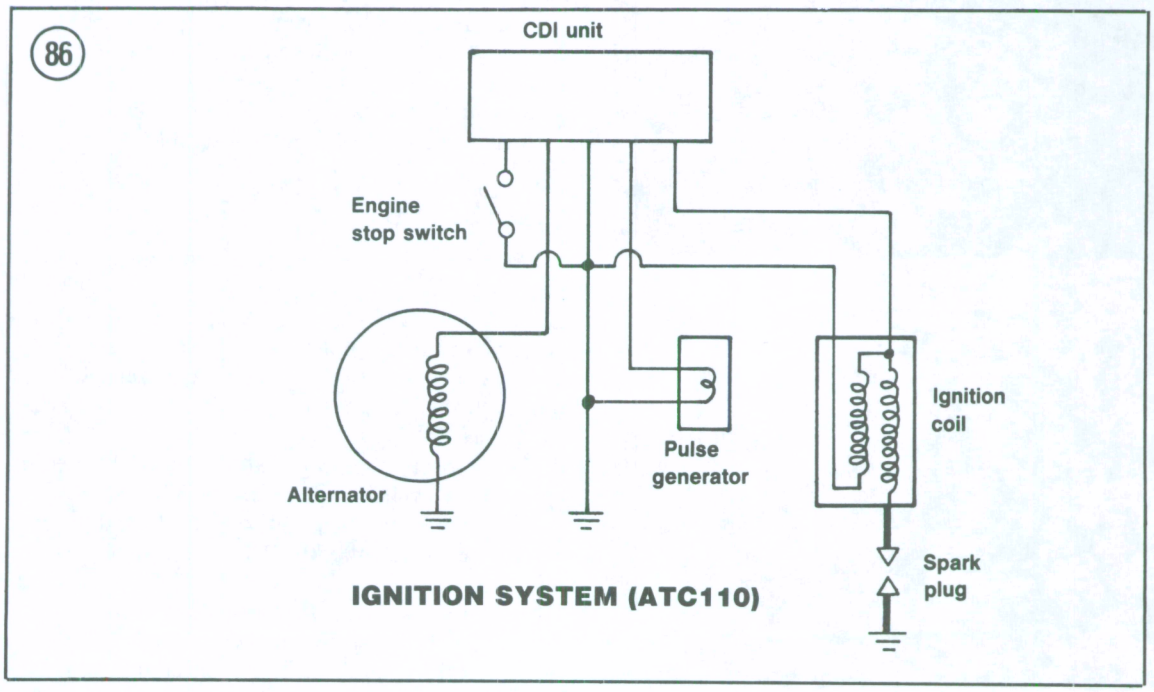
1. Remove the seat/rear fender assembly.
2. To check the lighting coil, use an ohmmeter set at R×1.
3. Disconnect the yellow wire connector going to the alternator.
4. Check the resistance between the yellow wire and to ground. The specified resistance is 0.8 ohms.
5. If the resistance value is not as specified, the stator assembly must be replaced (the individual coil cannot be replaced) as described in Chapter Seven in the main body of this book.
6. Reconnect the yellow wire and install seat /rear fender assembly.

VOLTAGE REGULATOR/RECTIFIER

Testing (ATC125M, TRX125 and Fourtrax 125)

1. Remove the seat/rear fender assembly.
2. Disconnect the electrical connector from the wiring harness (**Figure 85**).





NOTE

Test must be made with a quality ohmmeter or the test readings may be false.

3. Make the test measurements using a quality ohmmeter. Refer to **Table 12** for ohmmeter positive and negative test lead placement and specified resistance values.
4. If the voltage regulator/rectifier fails *any one* of these tests, the unit must replaced as described in Chapter Seven in the main body of this book.

CAPACITOR DISCHARGE IGNITION

Refer to **Figure 86** for the ignition system used on the ATC110 or **Figure 87** for the Fourtrax 70. All other models are the same as on previous years.

CDI Testing (ATC110, Fourtrax 70, TRX 125 and Fourtrax 125)

To test the CDI unit, remove the unit from the frame as described in Chapter Seven in the main body of this book.

CAUTION

Test may be performed on the CDI unit but a good one may be damaged by someone unfamiliar with the test equipment. If you feel unqualified to perform this test, have the test made by a Honda dealer or substitute a known good one for a suspected one.

NOTE

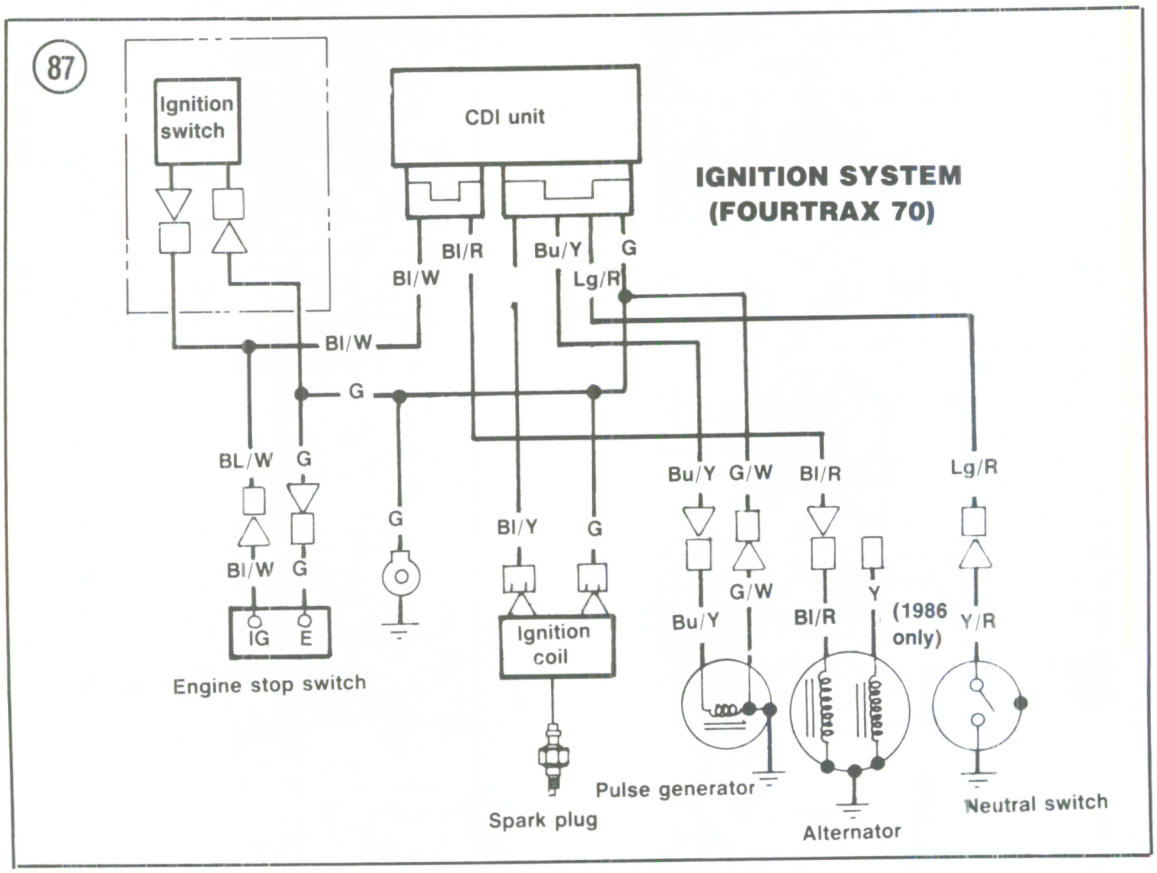
Test must be made with a quality ohmmeter or the test readings may be false.

Refer to the following tables for ohmmeter positive and negative test lead placement and specified resistance values.

a. ATC110: **Table 13**.
b. Fourtrax 70: **Table 14**.
c. 1985 TRX125: **Table 15**.
d. 1986 Fourtrax 125: **Table 16**.

Disconnect the electrical connector from the CDI unit. The test connections are made directly to the terminals within the CDI unit. For terminal color designition refer to the following figures:

a. ATC110: **Figure 88**.
b. Fourtrax 70: **Figure 89**.



c. 1985 TRX125: **Figure 90**.
d. 1986 Fourtrax 125: **Figure 91**.

If the CDI unit fails *any one* of the tests, the unit is faulty and must be replaced.

Ignition Pulse Generator Inspection (TRX70 and ATC110)

NOTE

In order to get accurate resistance measurements, the unit must be at approximately 68° F (20° C).

1. Remove the seat/rear fender assembly.
2A. On TRX70 models, disconnect the electrical connector (containing 2 wires, one green/white and one blue/yellow) from the ignition pulse generator.
2B. On ATC110 models, disconnect the electrical connector (containing 2 wires, one green and one blue/yellow) from the ignition pulse generator (**Figure 92**).
3. Use an ohmmeter set at R × 10 and check resistance between the blue/yellow and green wires. The specified resistance is as follows:
a. TRX70: 80-120 ohms.
b. ATC110: 90 ohms.

If the reading is not as specified, the ignition pulse generator must be replaced as described in Chapter Seven in the main body of this book.
4. Reconnect the electrical connector and install the seat/rear fender assembly.

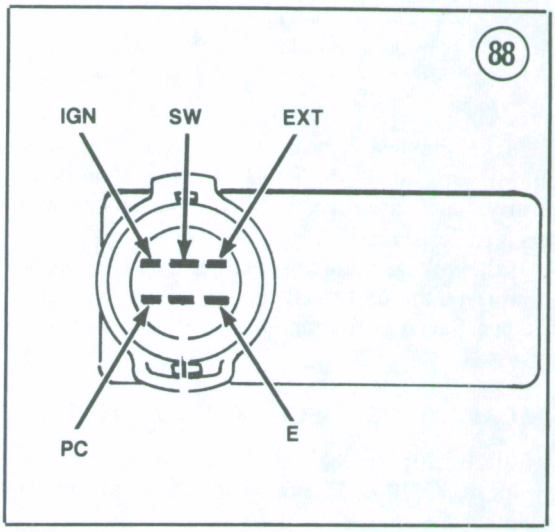
IGNITION COIL

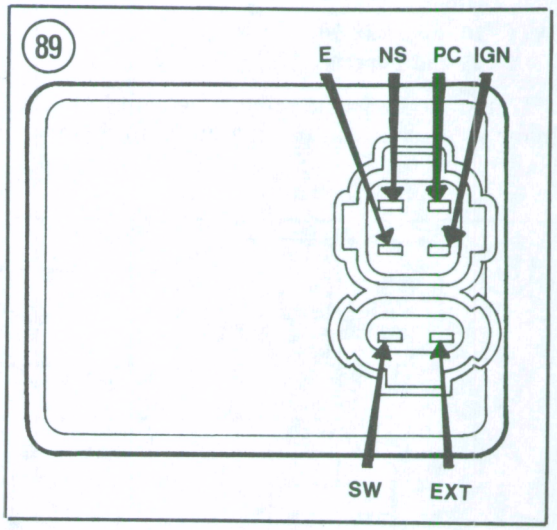
Removal/Installation (TRX70, ATC110, ATC125M, TRX125, Fourtrax 125)

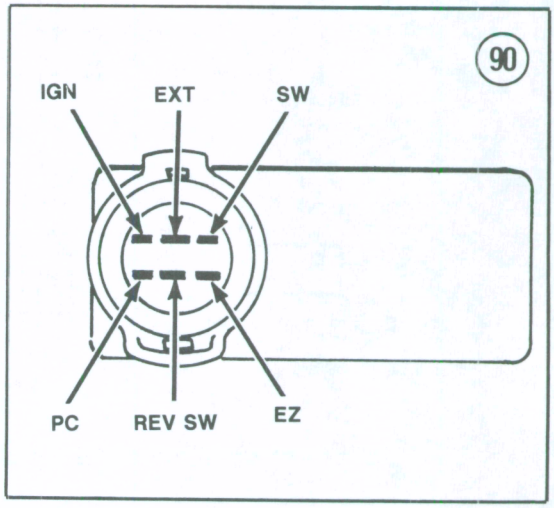
1. Remove the seat/rear fender assembly.
2. On ATC110 and ATC125M models, remove the fuel tank as described in Chapter Six in the main body of this book.
3. Disconnect the high voltage lead (A, **Figure 93**) from the spark plug.
4. Disconnect the primary electrical connectors from the ignition coil.
5. Carefully remove the ignition coil (B, **Figure 93**) and its rubber holder from the mounting tab on the frame.
6. Install by reversing these removal steps. Make sure all electrical connectors are tight and free of corrosion.

Testing

Refer to **Figure 94** for this procedure.







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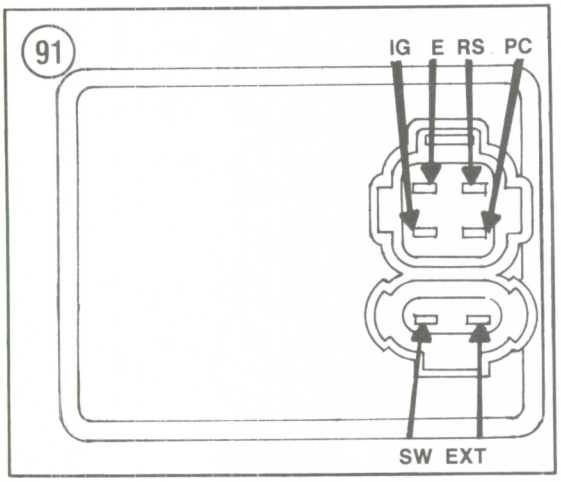

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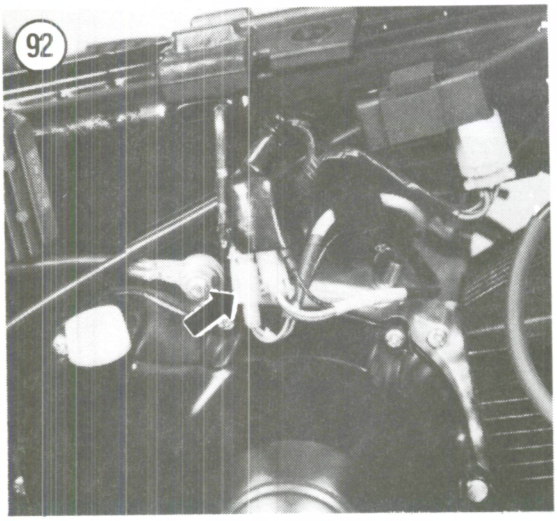

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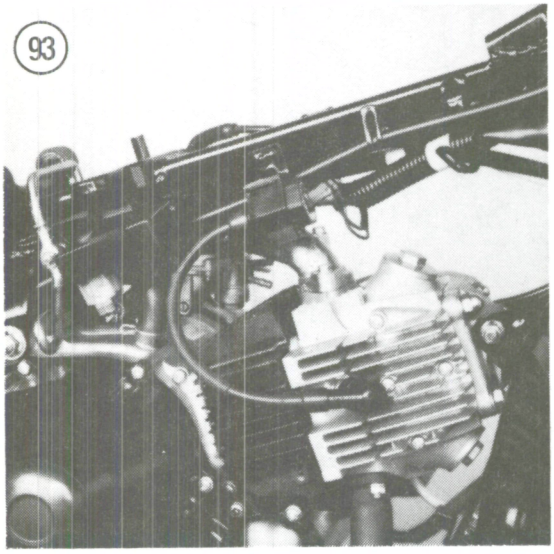

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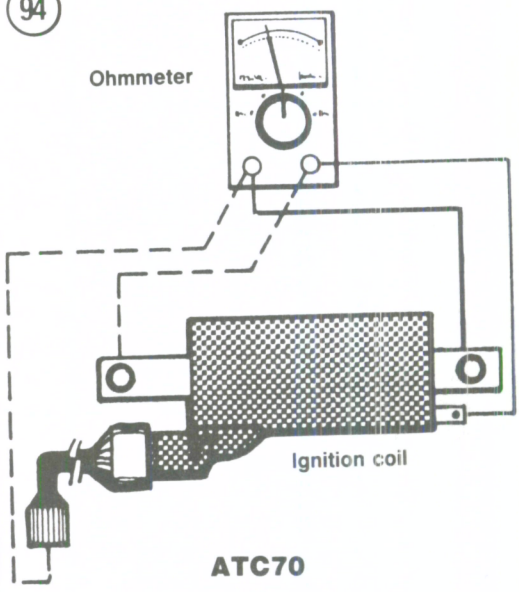
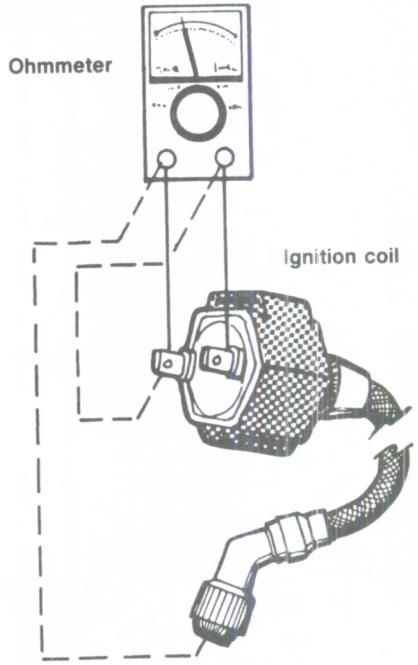


ATC70

Primary coil resistance value

Secondary coil resistance value



FOURTRAX 70, ATC 110, ATC 125M, TRX 125 AND FOURTRAX 125

Static test (ATC70)

NOTE

In order to get accurate resistance measurements the unit must be at approximately 68° F (20° C).

1. Remove the fuel tank as described in Chapter Six in the main body of this book.
2. Disconnect all ignition coil wires before testing.
3. Measure the coil primary resistance using an ohmmeter set at R × 1. Measure between the primary terminal and the mounting flange. The specified resistance is 1.35-1.65 ohms.
4. Measure the coil secondary resistance using an ohmmeter set at R × 10. Measure between the primary terminal and the spark plug cap. The specified resistance is 7.65-9.35 ohms.
5. If the coil resistance does not meet either of these specifications, the ignition coil must be replaced. If the coil exhibits visible damage, it should be replaced. To replace the ignition coil refer to Chapter Seven in the main body of this book.
6. Reconnect all ignition coil wires and install the seat/rear fender assembly.

Static test (all other models)

NOTE

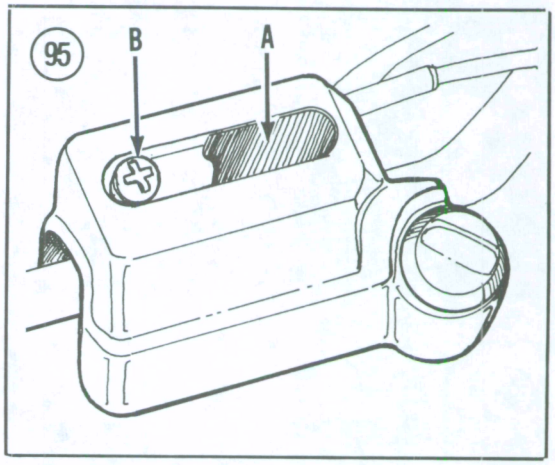
In order to get accurate resistance measurements the unit must be at approximately 68° F (20° C).

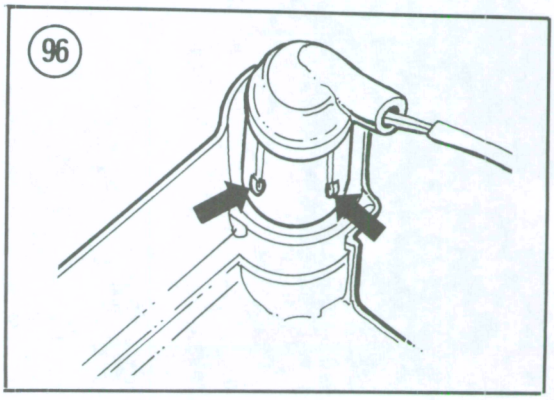
1. Disconnect all ignition coil wires before testing.
2. Measure the coil primary resistance using an ohmmeter set at R × 1. Measure between the primary terminal and the mounting flange. The specified resistance is as follows:
   a. TRX70: 0.16-0.198 ohms.
   b. ATC110: 0.16-0.20 ohms.
   c. ATC125M: 0.2-0.4 ohms.
   d. TRX125 and Fourtrax 125: 0.18-0.20 ohms.
3. Measure the coil secondary resistance using an ohmmeter set at R × 10. Remove the spark plug cap from the wire. Measure between the primary terminal and the end of the spark plug wire. The specified resistance is as follows:
   a. TRX70: 3.69-4.51 ohms.
   b. ATC110: 3.75-6.25 ohms.
   c. ATC125M: 3.7-4.5 ohms.
   d. TRX125 and Fourtrax 125: 3.7-4.5 ohms.
4. Measure the spark plug cap resistance using an ohmmeter set at R×10. Remove the spark plug cap from the wire. Measure between each end of the spark plug cap. The specified resistance is as follows:
   a. ATC110: 3.75-6.25 ohms.
   b. ATC125M: 3.7-4.5 ohms.
   c. TRX70, TRX125 and Fourtrax 125: no specifications given.
5. If the coil resistance does not meet any of these specifications, the ignition coil must be replaced. If the coil exhibits visible damage, it should be replaced as described in this supplement.
6. Reconnect all ignition coil wires.

SWITCHES

Ignition Switch (1987 Fourtrax 70)
Removal/Installation

1. Using a small screwdriver, remove the small insert nameplate (A, **Figure 95**) in the center of the handlebar upper cover.
2. Remove the screws (B, **Figure 95**) securing the handlebar upper cover.





3. Partially pull the upper cover off the handlebar and disconnect the ignition switch electrical wires from the wiring harness.
4. Remove the handlebar upper cover and ignition switch assembly.
5. To remove the ignition switch from the handlebar upper cover, perform the following:
   a. Turn the assembly over and set it on several shop cloths to protect the finish.
   b. Push in on the locking lugs (**Figure 96**) on the ignition switch and remove the switch through the top surface of the upper cover.
6. Install by reversing these removal steps.

Table 12 VOLTAGE REGULATOR/RECTIFIER TEST POINTS

ATC125M, TRX125 and Fourtrax 125		
Positive	**Negative**	**Value (ohms)**
Yellow	yellow	infinity
Yellow	green	1-20
Yellow	red	infinity
Yellow	black	1-50
Yellow	yellow	infinity
Yellow	green	1-20
Yellow	red	infinity
Yellow	black	1-50
Green	yellow	infinity
Green	yellow	infinity
Green	red	infinity
Green	black	0.2-10
Red	yellow	1-20
Red	yellow	1-20
Red	green	3-100
Red	black	3-10
Black	yellow	infinity
Black	yellow	infinity
Black	green	0.20-20
Black	red	infinity

Table 13 CDI TEST POINTS (ATC110)

Positive	Negative	Value (ohms)
SW	EXT	0.1-20
SW	PC	0.5-200
SW	E	0.2-60
SW	IGN	infinity
EXT	SW	infinity
EXT	PC	0.5-100
EXT	E	0.1-1.0
EXT	IGN	infinity
PC	SW	infinity
PC	EXT	infinity
PC	E	infinity
PC	IGN	infinity
E	SW	infinity
E	EXT	infinity
E	PC	1-5
E	IGN	infinity
IGN	SW	infinity
IGN	EXT	infinity
IGN	PC	infinity
IGN	E	infinity

Table 14 CDI TEST POINTS (FOURTRAX 70)

Positive	Negative	Value (K-ohms)
SW	EXT	0.5-10
SW	PC	50-infinity
SW	E	1-30
SW	IGN	50-infinity
SW	NS	50-infinity
EXT	SW	50-infinity
EXT	PC	10-infinity
EXT	E	0.5-1.0
EXT	IGN	50-infinity
EXT	NS	50-infinity
PC	SW	50-infinity
PC	EXT	50-infinity
PC	E	1-15
PC	IGN	50-infinity
PC	NS	50-infinity
E	SW	50-infinity
E	EXT	50-infinity
E	PC	10-infinity
E	IGN	50-infinity
E	NS	50-infinity
IGN	SW	50-infinity
IGN	EXT	50-infinity
IGN	PC	50-infinity
IGN	E	50-infinity
IGN	NS	50-infinity
NS	SW	50-infinity
NS	EXT	30-200
NS	PC	50-infinity
NS	E	1-30
NS	IGN	50-infinity

Table 15 CDI TEST POINTS (1985 TRX125)

Positive	Negative	Value (ohms)
SW	EXT	0.5-9
SW	PC	20-200
SW	REV SW	infinity
SW	E	2-30
SW	IGN	infinity
EXT	SW	infinity
EXT	PC	10-50
EST	REV SW	infinity
EXT	E	0.5-9
EXT	IGN	infinity
PC	SW	infinity
PC	EXT	infinity
PC	REV SW	infinity
PC	E	infinity
PC	IGN	infinity
REV SW	SW	infinity
REV SW	EXT	5-500
REV SW	PC	10-50
REV SW	E	0.5-9
REV SW	IGN	infinity

(continued)

Table 15 CDI TEST POINTS (1985 TRX 125) (continued)

Positive	Negative	Value (ohms)
E	SW	infinity
E	EXT	5-500
E	PC	5-30
E	REV SW	infinity
E	IGN	infinity
IGN	SW	infinity
IGN	EXT	infinity
IGN	PC	infinity
IGN	REV SW	infinity
IGN	E	infinity

Table 16 CDI TEST POINTS (1986 FOURTRAX 125)

Positive	Negative	Value (ohms)
SW	EXT	0.5-10
SW	PC	50-infinity
SW	REV SW	infinity
SW	E	2-50
SW	IGN	infinity
EXT	SW	infinity
EXT	PC	40-infinity
EST	REV SW	infinity
EXT	E	0.5-10
EXT	IGN	infinity
PC	SW	infinity
PC	EXT	70-infinity
PC	REV SW	infinity
PC	E	1-15
PC	IGN	infinity
REV SW	SW	infinity
REV SW	EXT	20-100
REV SW	PC	100-infinity
REV SW	E	2-40
REV SW	IGN	infinity
E	SW	infinity
E	EXT	40-infinity
E	PC	20-100
E	REV SW	infinity
E	IGN	infinity
IGN	SW	infinity
IGN	EXT	infinity
IGN	PC	infinity
IGN	REV SW	infinity
IGN	E	infinity